

# C L A I M S

1. An imaging optical system comprising in order from the object side: a first positive meniscus lens having a convex surface on the object side; an aperture stop; a second negative meniscus lens having a convex surface on the image side; and a third positive lens, wherein an object side surface of said third lens is an aspherical surface having curvature which is lowered toward a marginal portion of the aspherical surface and an image side surface of the third lens is an aspherical surface having curvature which is enhanced toward the marginal portion of the aspherical surface.

2. The imaging optical system according to claim 1 satisfying the following condition (1):

$$(1) \quad -100 < (r1r^2/f1)/(r2f^2/f2) < -1$$

wherein a reference symbol  $r1r$  represents a radius of curvature on an image side surface of the first positive lens, a reference symbol  $r2f$  designates a radius of curvature on an object side surface of the second negative lens, a reference symbol  $f1$  denotes a focal length of the first positive lens and a reference symbol  $f2$  represents a focal length of the second negative lens.

3. The imaging optical system according to claim 1 or 2 satisfying the following condition (2):

$$(2) \quad 0.1 < f_1/f < 3.0$$

wherein a reference symbol  $f_1$  represents a focal length of the first positive lens and a reference symbol  $f$  designates a focal length of the imaging optical system as a whole.

4. The imaging optical system according to claim 1 satisfying the following condition (3):

$$(3) \quad 1.0 < f_{23}/f < 4.0$$

wherein a reference symbol  $f_{23}$  represents a total focal length of the second lens and the third lens, and a reference symbol  $f$  designates a focal length of the imaging optical system as a whole.

5. The imaging optical system according to claim 1 satisfying the following condition (4):

$$(4) \quad -10.0 < f_1/f_{23} < 3.0$$

wherein a reference symbol  $f_1$  represents a focal length of the first positive lens, and a reference symbol  $f_{23}$  designates a total focal length of the second negative lens and the third positive lens.

6. The imaging optical system according to claim 1

satisfying the following condition (5):

$$(5) \quad 0.1 < (\nu_2 - \nu_1)/(\nu_3 - \nu_2) < 8.0$$

wherein reference symbols  $\nu_1$ ,  $\nu_2$  and  $\nu_3$  represent  
Abbe's numbers of the first lens, second lens and  
the third lens respectively.

7. The imaging optical system according to claim 1  
satisfying the following condition (6):

$$(6) \quad 10^\circ < \alpha < 40^\circ$$

wherein a reference symbol  $\alpha$  represents a maximum  
angle of incidence of a principal ray on an image  
surface.

8. The imaging optical system according to claim 1,  
satisfying the following condition (7);

$$(7) \quad 0.50 [\mu\text{m}] < F_{\text{no}}/P [\mu\text{m}] < 2.00 [\mu\text{m}]$$

wherein a reference symbol  $F_{\text{no}}$  represents an  
F-number of the optical system and a reference  
symbol  $P$  designates an interval between picture  
elements on the image pickup device.

9. The imaging optical system according to claim 1,  
satisfying the following condition (8);

$$(8) \quad 0.02 < \text{ML}/\text{TL} < 0.33$$

wherein a reference symbol  $\text{TL}$  represents a total

length of the optical system and a reference symbol  
ML designates a minimum axial thickness of the  
plastic lens.

10. An optical apparatus comprising the imaging  
5 optical system according to claim 1.